is sick to death of change for the sake of change it will be surprising if any but the first proposal receives major support.

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Blood transfusions and renal allograft survival

SIR,—A multitude of factors may influence the outcome of renal allografts in man. However, the impact of these various factors on transplant survival may vary from one centre to another. Since Opelz *et al*¹ presented preliminary evidence on the beneficial effect of blood transfusions on renal allograft survival several reports²⁻⁵ have appeared confirming their findings, including the one recently reported by Mr R W Blamey and his colleagues (21 January, p 138). In these studies allograft survival in patients who had received no blood transfusions varied from 25 to 45% at one year compared with 50% or higher for patients who had received several pretransplant blood transfusions. In addition, patients with more transfusions showed better allograft survival than those receiving fewer blood transfusions.

Analysis of our data on 62 patients receiving first cadaver renal allografts revealed no significant beneficial effect of pretransplant blood transfusions on transplant survival (table below). Similar results were reported by Tovey *et al*.⁶ There was no significant difference in the outcome of renal allografts in 41 transfused and 21 non-transfused patients at any given interval during the follow-up period of two years. A total of 72% allografts in the non-transfused group and 70% in the transfused group were functioning at two years and beyond. Although our transplant survival rate in the transfused group is comparable to those reported by others, the main difference lies with the non-transfused patients, which at our centre have equally good transplant survival rates.

Various known factors such as age, sex, original disease, duration of haemodialysis, hepatitis B surface antigenaemia, immunosuppressive therapy (prednisone and azathioprine), degree of HLA compatibility, and pregnancy were comparable in the two groups and could not explain the better transplant survival in non-transfused patients than has been reported by others. However, most of our non-transfused patients (17/21) have received 2-7 units of leucocyte-poor packed cells during the operation or in the immediate post-transplantation period of 2-3 weeks. It remains unclear whether if these transfusions have influenced our results. Although Mr Blamey and his colleagues observed no beneficial effect of transfusions given on the day of transplantation or during the post-transplantation period, this point needs to be further investigated. Transfusing patients during the operation or soon after may be a common practice at most centres, including those which have reported poor allograft survival for patients with no pre-

transplant transfusions.¹⁻⁵ If it is true, then it may be difficult to explain the better transplant outcome observed in our non-transfused patients.

We have no restriction on blood transfusions for prospective recipients to maintain a desired haemoglobin level, but we have avoided liberalising our practice so as to limit the risk of inducing lymphocytotoxins. Thus it is desirable that each centre should first analyse its own data with regard to various factors that may influence transplant outcome, including blood transfusions, before opting for drastic changes in the protocol such as liberalised pretransplant blood transfusions.

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¹ Opelz, G, *et al*, *Transplantation Proceedings*, 1973, 5, 253.

² VanHoff, J P, *et al*, *Lancet*, 1972, 2, 1385.

³ Opelz, G, and Terasaki, P I, *Lancet*, 1974, 2, 696.

⁴ Perkins, H A, *Transplantation Proceedings*, 1977, 9, 229.

⁵ Festenstein, H, Sachs, J A, and Paris, A M I, *Lancet*, 1976, 1, 157.

⁶ Persijn, G G, *et al*, *Transplantation Proceedings*, 1977, 9, 503.

⁷ Human Renal Transplant Registry, *Transplantation Proceedings*, 1977, 9, 9.

⁸ Fuller, T C, *et al*, *Transplantation Proceedings*, 1977, 9, 117.

⁹ Tovey, G H, *et al*, XIVth Congress of the International Society of Blood Transfusion, Helsinki, 1975.

Cigarette smoking and spontaneous abortion

SIR,—Your leading article (4 February, p 259) was essentially inconclusive concerning a possible association between maternal cigarette smoking and abortion. You stressed the difficulties in evaluating data on abortions from countries with liberal laws concerning induced abortion.

We have been interested for over 10 years in the effects of cigarette smoking on the outcome of pregnancy.¹⁻³ We have shown both in large unselected hospital attenders and in small, carefully controlled groups that a reduction in reproductive efficiency exists among smoking mothers.

In a study of 12 013 consecutive patients⁵ who attended this hospital for delivery or for the treatment of spontaneous abortion a substantial increase in the proportion of abortions with increased maternal smoking was noted (see table above). The exception to this trend, shown in women smoking 25 or more cigarettes per day, may be ascribed to random variations due to the small number of patients in this group. The same study also demonstrated that while increasing maternal age and parity resulted in a greater proportion of pregnancies ending in abortion, the effects of cigarette smoking in increasing the rate of abortion was independent of both the effect of maternal age and parity.

In Ireland induced abortion is illegal and

Incidence of abortion related to quantity of cigarettes smoked

Cigarettes per day	Total No of women	Percentage of abortions
None	6478	9.8
1-4	600	9.3
5-9	1150	13.9
10-12	1897	11.1
13-14	298	13.1
15-19	643	13.1
20-24	767	12.3
25+	180	10.5
Total	12 013	10.8
0-4	7078	9.7
5+	4935	12.3

the incidence of criminal abortion is believed to be negligible. Consequently the data demonstrating a positive association between smoking and an increased rate of abortion relate solely to spontaneous abortion. Our experience would support the contention that maternal cigarette smoking leads to reduced reproductive efficiency at all stages of pregnancy.

Since the tobacco habit is a potentially controllable environmental factor, efforts should continue to control cigarette smoking.

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¹ Mulcahy, R, *American Journal of Obstetrics and Gynecology*, 1968, 101, 844.

² Mulcahy, R, Murphy, J F, and Martin, F, *American Journal of Obstetrics and Gynecology*, 1970, 106, 703.

³ Murphy, J F, and Mulcahy, R, *American Journal of Obstetrics and Gynecology*, 1971, 111, 77.

⁴ Mulcahy, R, and Murphy, J F, *Journal of the Irish Medical Association*, 1972, 65, 175.

⁵ Murphy, J F, and Mulcahy, R, *Journal of the Irish Medical Association*, 1974, 67, 309.

Genital herpes and cervical carcinoma

SIR,—Anyone working in a clinical cytology laboratory soon becomes aware of the association between genital herpes and cervical carcinoma referred to in your leading article (1 April, p 807). In the Bristol Health District we find cytological evidence of a herpes infection in roughly one out of every 80 cervical smears received from the special treatment clinics, and in 20% of these superficial dyskeratotic cells are present. Many of these patients are under 25 years of age, and the finding of premalignant cells in their cervical smears draws attention to the need for long-term follow-up.

After 12 years we are now beginning to see a few of these patients develop carcinoma-in-situ and microinvasive carcinoma. So one way of preventing cervical carcinoma, particularly in young women, is to request an annual cervical smear from all patients known to have contracted genital herpes.

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SIR,—I read with interest the latest of your series of timely leading articles (1 April, p 807) on the association of genital herpes virus infection with carcinoma of the cervix.

The point is well made that preventive programmes are likely to fail if they ignore human behaviour and the biology of the herpes virus. You further state that "a successful preventive

Blood transfusions and renal allograft survival

	No of patients	"allograft survival at			
		3 months	6 months	1 year	2 years
Transfused	41	81	78	73	70
Non-transfused	21	86	81	81	72
Total	62	82	79	76	71